



State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3406 FAX (603) 271-7894



July 23, 2002
Letter of Deficiency
DAM #209.02

Mr. Rodney Bartlett
Town of Salem
Public Works Dept.
21 Cross Street
Salem, NH 03079

RE: Taylor Reservoir Dam, Salem

Dear Mr. Bartlett:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that plays a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on March 8, 2002. During this visual inspection and/or file review, the following deficiencies were observed:

- There was minor brush on the upstream face right side of the dam about half way between the right abutment and the bend in the upstream face;
2. There are several hairline cracks across the entire length of the recently repaired concrete upstream face;
3. The downstream slope of the embankment is heavily overgrown with trees to the right of the spillway and brush to the left of the spillway. This condition has been noted since the 1995 inspection which is in violation of the O&M plan submitted by the town in March of 1999. The last noted tree removal event occurred in March of 1992;
4. There is soil erosion on the dam crest adjacent to the right spillway concrete walls. The earthen crest is approximately 6 inches below the top of the concrete wall;
5. The right downstream stone wall in the spillway discharge channel adjacent to the toe of the embankment has missing stones and is undermined;
6. There is missing concrete located in the left spillway section 4 feet from the left spillway wall, at the transition from the horizontal concrete to the angled portion of the downstream face;
7. There is a vertical crack ½" wide located on the downstream face of the spillway section 2 feet to the left of the low level outlet pipe extending from the concrete crest extending approximately 4 feet down towards the apron;

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8. There is soil erosion on the left embankment adjacent to the spillway section on the crest and downstream face. There is approximately 3 feet of concrete wall exposed on the downstream face and approximately 1 foot of wall exposed on the crest;
9. There was seepage observed in the old spillway discharge channel located along the access road to the dam; and
10. The Emergency Action Plan (EAP) needs to be updated and tested annually.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated:

November 1, 2002:

1. Remove the minor brush on the upstream face of the dam located halfway between the right abutment and the bend in the upstream face;
2. Update the O&M plan to include an item to monitor the hairline cracks across the entire length of the upstream face. The plan should include the location of each crack and its width (i.e. hairline, 1/8" wide, etc.). Observations should be conducted during the annual mowing of the embankments and documented for future comparison;
3. Remove the brush and trees on the downstream face of the embankment and within 10 feet of the embankment toe in accordance with the operations and maintenance plan signed by the Director of the Department of Public Works dated March 22, 1999;
4. Repair the soil erosion on both the right and left embankments adjacent to the spillway training walls;
5. Replace the missing stones in spillway discharge channel downstream right training wall. These missing stones are considered the initial stages of failure of the right embankment. Soil from the embankment could easily be transported through the void in the stone wall leading to a complete failure of the embankment section;
6. Repair the missing concrete located in the left spillway section, 4 feet from the left spillway training wall, at the transition from the horizontal to angled section of the spillway;
7. Monitor the 1/2" wide vertical crack on the downstream face of the spillway located 2 feet to the left of the low level outlet pipe. Update the O&M plan to include observation and documentation of this crack on an annual basis;
8. Monitor and document the seepage in the abandoned spillway discharge channel. It is recommended that a weir be constructed in the channel to better facilitate seepage monitoring; and
9. Test and update the EAP.

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DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Due to the time that has lapsed as well as additional deficiencies observed as a result of the March 8, 2002 inspection, DES will be officially closing out the 1999 LOD. Enclosed is a copy for your reference. This LOD will replace the 1999 LOD. It is our hope that the additional deficiencies as well as the outstanding deficiencies will be addressed within the schedule indicated above.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the top of the previous page.

Sincerely,

COPY

Jeffrey M. Blaney
Dam Safety Engineer

Attachments DB8, DB13, Copy of LOD dated 1999

cc: Gretchen Rule

Certified # 7000 1670 0000 0586 0585

JMB/was/h:/safety/wendy/lod/209-02lod.doc

WAS

Please CC the

Selections office

with

Chet